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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,922	08/27/2003	Gary Brian Merrill	1999P09028US01	4115

7590 07/01/2005

Siemens Corporation
Intellectual Property Dept.
170 Wood Avenue South
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EXAMINER
JOHNSON, JONATHAN J

ART UNIT	PAPER NUMBER
1725	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/648,922	MERRILL ET AL.	
	Examiner	Art Unit	
	Jonathan Johnson	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamo (5,820,976). Kamo teaches a thermal barrier coating having a three-dimensional array having a particular packing density (col. 1, ll. 35-50) the shapes having a wall thickness of 50 to 500 micrometers (col. 4, ll. 60-65); a binder disposed within the array and among the ceramic shapes to bind the ceramic shapes within the array (col. 5, ll. 50-55); wherein the thermal barrier coating material is thermally stable at temperatures up to 1600 C (col. 5, ll. 50-60); where the turbine component is a combustor or combustion turbine assembly (col. 5, l. 35); where the shape is spherical having the claimed ratio (col. 1, ll. 35-50 and col. 3, ll. 30-40); where the binding is ceramic (col. 2, ll. 10-30); where the binder are less dense than the shapes (col. 5, ll. 45-55); where the binder physically adheres to the shapes to form an array (col. 5, ll. 45-62). Kamo does not teach the particular packing density or wall structure density, however it is the examiner's position that because the coating of Kamo uses the same materials and is manufactured in substantially the same way, the claimed packing density and wall structure density would be inherent to the coating. When the examiner has reason to believe that functional language asserted to be critical for establishing novelty in claimed subject matter may, in fact be an

inherent characteristic of the prior art, the burden of proof is shifted to the applicant to prove that the subject matter shown in the prior art does not possess the characteristics relied upon. *In re Fitzgerald et al.* 205 USPQ 594.

IF IT IS FOUND THAT THE CLAIMED PACKING DENSITY AND WALL STRUCTURE DENSITY IS NOT INHERENT TO KAMO, THEN THE 103 REJECTION APPLIES.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 21-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamo (5,820,976). Kamo teaches a thermal barrier coating having a three-dimensional array having a particular packing density (col. 1, ll. 35-50) the shapes having a wall thickness of 50 to 500 micrometers (col. 4, ll. 60-65); a binder disposed within the array and among the ceramic shapes to bind the ceramic shapes within the array (col. 5, ll. 50-55); wherein the thermal barrier coating material is thermally stable at temperatures up to 1600 C (col. 5, ll. 50-60); where the turbine component is a combustor or combustion turbine assembly (col. 5, l. 35); where the shape is spherical having the claimed ratio (col. 1, ll. 35-50 and col. 3, ll. 30-40); where the binding is ceramic (col. 2, ll. 10-30); where the binder are less dense than the shapes (col. 5, ll. 45-55); where the binder physically adheres to the shapes to form an array (col. 5, ll. 45-62). Kamo does

not teach the particular packing density or wall structure density, however it is the examiner's position that because the coating of Kamo uses the same materials and is manufactured in substantially the same way, it would have been obvious to modify the coating of Kamo to utilize the claimed packing density and wall structure density in order to provide a ceramic coating with a high thermal barrier (see Kamo col. 1, ll. 10-20). Put another way, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process optimization, since it has been held that there the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 21, 33 and 39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of U.S. Patent No. 6,641,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because the prior art anticipates the claims of the instant application.

Claims 21, 33 and 39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 16 of U.S. Patent No. 6,197,424. Although the conflicting claims are not identical, they are not patentably distinct from each other because the prior art meets all of the claims of the instant application except the packing density and structural wall density. It would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process optimization as discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980).

Response to Arguments

Applicants argue the Declaration of Gary Merrill clearly shows that the volcanic ash bubbles are less than 45 microns. The examiner disagrees. Mr. Merrill's statement in declaration that "the bubbles have a wall thickness under 45 microns, and the wall thickness is quite likely toward the low end of a 2-40 micron range" is merely a conclusory statement without any evidence to support his assertion. While an opinion as to a legal conclusion is not entitled to any weight, the underlying basis for the opinion may be persuasive. In re Chilowsky, 306 F.2d 908,

Applicants next argue that Kamo does not teach the claimed density of 20-85%. While the examiner agrees that Kamo is silent regarding the packing density, as stated in the previous final office action, because the coating of Kamo uses the same materials and is manufactured in substantially the same way, the claimed packing density would be inherent to the coating. Furthermore, because Kamo uses the same materials manufactured in substantially the same way, coupled with the fact that both Kamo and the instant application are using their coatings for

substantially the same purpose, further bolstered by the broadly claimed density range, that the density of 20-85% is inherently taught in Kamo. In any event, even if it were not inherently taught, it would be obvious for the reasons stated above.

Conclusion

All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jonathan Johnson
Primary Examiner
Art Unit 1725

jj